

WHAT IS CLAIMED IS:

1. A projection lens including first to third groups of lenses G1, G2 and G3, the first group of lenses G1 consisting of four  
5 pieces of lenses the first or foremost negative one of which is an aspheric lens, the second group of lenses G2 consisting of two pieces of lenses the first or foremost negative one and the second positive one of which are joined together, the third  
10 group of lenses G3 consisting of six pieces of lenses the second foremost positive one, the third negative one, and the fourth positive one of which are joined together, the projection lens is the following formulae;

(1)  $bf/f \geq 2.8$  ,

(2)  $1.1 \leq f2/f3 \leq 1.6$  , and

15 (3)  $1.65 \leq |f1|/f \leq 2.05$  ,

where f1, f2 and f3 are focal lengths unique to the first, second and third groups of lenses G1, G2 and G3, respectively, and f and bf are total focal length and back focus of the whole optics, respectively.

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2. A liquid crystal projector having three liquid crystal panels for three primary colors in combination with the projection lens according to claim 1.

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